

Remarks

The allowance of Claim 25, 26, and 27 is acknowledged with appreciation.

The rejection of Claims 13 and 22 is traversed but is rendered moot by the cancellation of these claims. The objectionable language has been deleted from Claims 1 and 3, making these claims allowable. The rejection of Claim 2 as not being directed to structure is traversed. Properties are also "structure" in the sense that they are further limiting. However the rejection of Claim 2 is moot since this claim has been rewritten in independent form incorporating in it all the limitations of Claim 1 from which it originally depended.

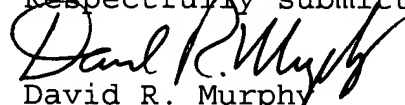
Certain additional prior art has just recently come to the attention of the undersigned as a result of a study by the client of Kirby et al U. S. 5,091,233 ("Kirby"). Such prior art as is currently available to the undersigned is listed on the information disclosure statement, Attachment C. The Examiner is respectfully requested to review this prior art and list it on the face of the patent in this case. Unfortunately, there appears to be about five patents listed in Kirby which the undersigned does not have copies. Copies are being ordered from the PTO and will be submitted to the Examiner as soon as they are provided to the undersigned.

This review is without waiving any rights to later show that Kirby is not prior art because this case is entitled to a date which is earlier than the effective date of Kirby.

Claim 26 is representative. No patent cited on Attachment C discloses both the $BaLi_4$ as required by Paragraph B of Claim 26 together with any of the oxides of the Markush group of Paragraph C of Claim 26. Other claims differ similarly from the prior art.

In summary it is respectfully submitted that all grounds of rejection have been overcome by argument or amendment, and that the Examiner would be justified in passing the case to issue. Such action is earnestly solicited.

Respectfully submitted,



David R. Murphy
Reg. No. 22,751
(703) 823-2709

Attachment: A. Check No.1603 for \$74.00
 B. "REVISED CLAIMS"
 C. "INFORMATION DISCLOSURE CITATION" (3 pages)
 D. Twenty-five patents per Attachment C

REVISED CLAIMS

1. (AMENDED) An improved thermally insulating jacket of a dewar or of another cryogenic device, having an inner wall and an outer wall, and having an inner space between said walls containing [completely or partially filled with] an insulating material, wherein said inner space also contains a moisture sorbing material and a getter material, wherein said moisture sorbing material is a moisture sorbing material, having a H_2O vapor pressure lower than 1 Pa at room temperature.

2. (AMENDED) An improved thermally insulating [A] jacket [according to Claim 1, characterized in that] of a dewar or of another cryogenic device, having an inner wall and an outer wall, and having an inner space between said walls containing [completely or partially filled with] an insulating material, wherein said inner space also contains a moisture sorbing material and a getter material, wherein said moisture sorbing material is a moisture sorbing material, having a H_2O vapor pressure lower than 1 Pa at room temperature and wherein said moisture sorbing material has a H_2O vapour pressure lower than 1 Pa at room temperature.

3. (AMENDED) A jacket according to Claim 1 wherein [, in the case no liquid hydrogen is present inside or outside said jacket,] said inner space also contains a hydrogen converter.

4. A process for producing the jacket of Claim 1, characterized by the following steps:

A. evacuating the inner space of the jacket down to a pressure lower than 100 Pa by means of a vacuum pump having a

connection between the pump and the inner space of the jacket;

B. exposing said inner space contemporaneously to said moisture sorbing material while keeping the getter in an inactivated form;

C. evacuating said inner space farther, down to a pressure lower than 5 Pa, by means of the vacuum pump;

D. activating said getter; and

E. isolating the jacket from the vacuum pump, by sealing the connection between said vacuum pump and the inner space of the jacket.

5. A process according to Claim 4 characterized in that during the exposing of step B, the evacuating according to Step A is discontinued.

6. A process according to Claim 4, characterized in that during the Steps A and B, the inner wall is kept hot at a temperature of not higher than 150°C thus promoting the release of water from the insulation material.

7. A process according to Claim 4, characterized in that the step B lasts for up to 48 hours.

8. A process according to claim 4 characterized in that said moisture absorbing material and said getter are lying, in separate locations, against the outer wall of said jacket.

9. A process according to Claim 8 characterized in that said moisture sorbing material and said getter are arranged in a container subdivided into an inner zone and an outer zone by a porous septum, wherein:

- the inner zone contains said getter;
- the outer zone is communicating with the inner zone containing said insulating material and contains said moisture

sorbing material which prevents the passage of water vapour through said septum and towards said getter.

10. A process according to Claim 9 characterized in that said container is a vertical box having an opening at its uppermost portion and a planar septum.

11. A process according to Claim 9 characterized in that said container is a toroidal box having a radial or planar septum.

12. A process according to Claim 10, characterized in that said septum is horizontal.

14. A process according to Claim 9, characterized in that said container is made from a substantially water-free material, selected from the group consisting of metal, glass, ceramics and combinations thereof.

16. A process according to Claim 4, characterized in that said getter material is an alloy having the formula BaLi_4 .

17. A process according to Claim 4 wherein step B lasts from about 2 to about 48 hours.

18. A process according to Claim 5 wherein step B lasts from about 2 to about 48 hours.

19. A process according to Claim 6 wherein step B lasts from about 2 to about 48 hours.

20. A process according to Claim 4, characterized in that said septum is horizontal.

21. A jacket of Claim 1 wherein said moisture sorbing material is selected from the group consisting of barium oxide, strontium oxide, phosphorous oxide, and mixtures thereof.

23. A jacket of Claim 22 wherein the hydrogen converter is selected from the group consisting of osmium oxide, iridium oxide, ruthenium oxide, rhodium oxide and palladium oxide.

24. A jacket of Claim 22 wherein the hydrogen converter is palladium oxide; the moisture sorbing material is barium oxide; and the getter material is a non-evaporable alloy consisting essentially of barium and lithium.

25. An improved thermally insulating jacket, having an inner wall and an outer wall, and having an inner space between said walls completely or partially filled with an insulating material, wherein said inner space also contains:

A. a moisture sorbing material selected from the group consisting of barium oxide, strontium oxide, phosphorous oxide, and mixtures thereof; and

B. a getter material which is an alloy of the formula BaLi_4 .

26. An improved thermally insulating jacket, having an inner wall and an outer wall, and having an inner space between said walls completely or partially filled with an insulating material, wherein said inner space also contains:

A. a moisture sorbing material selected from the group consisting of barium oxide, strontium oxide, phosphorous oxide, and mixtures thereof; and

B. a getter material which is an alloy of the formula BaLi_4 ; and

C. a hydrogen converter selected from the group consisting of osmium oxide, iridium oxide, ruthenium oxide, rhodium oxide and palladium oxide.

27. An improved thermally insulating jacket, having an inner wall and an outer wall, and having an inner space between said walls completely or partially filled with an insulating material, wherein said inner space also contains:

- A. a moisture sorbing material which is barium oxide; and
- B. a getter material which is an alloy of the formula BaLi_4 ; and
- C. a hydrogen converter which is palladium oxide.